

and the binding of the compound to the human MC-1R is characterized by an  $IC_{50}$  greater than 30 nM.

40. (New) The method of Claim 39 wherein the binding of the compound to the human MC-1R is characterized by an  $IC_{50}$  greater than 100 nM.

41. (New) The method of Claim 39 wherein the binding of the compound to the human MC-1R is characterized by an  $IC_{50}$  greater than 1000 nM.

42. (New) The method of Claim 39 wherein the binding of the compound to the human MC-1R is characterized by an  $IC_{50}$  greater than 2100 nM.

al 43. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an  $IC_{50}$  less than 30 nM and the binding of the compound to the human MC-3R is characterized by an  $IC_{50}$  greater than 30 nM.

44. (New) The method of Claim 43 wherein the binding of the compound to the human MC-3R is characterized by an  $IC_{50}$  greater than 100 nM.

45. (New) The method of Claim 43 wherein the binding of the compound to the human MC-3R is characterized by an  $IC_{50}$  greater than 540 nM.

46. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the binding of the compound to the human MC-4R is characterized by an  $IC_{50}$  less than 30 nM and the binding of the compound to the human MC-5R is characterized by an  $IC_{50}$  greater than 30 nM.

47. (New) The method of Claim 46 wherein the binding of the compound to the human MC-5R is characterized by an  $IC_{50}$  of greater than 100 nM.

48. (New) The method of Claim 46 wherein the binding of the compound to the human MC-5R is characterized by an  $IC_{50}$  greater than 230 nM.

49. (New) The method of Claim 39 wherein the compound is further characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an  $IC_{50}$  greater than 30 nM.

50. (New) The method of Claim 40 wherein the compound is further characterized by binding to each of the human MC-2R, MC-3R, and MC-5R with an  $IC_{50}$  greater than 100 nM.

a | 51. (New) The method of Claim 41 wherein the compound is further characterized by binding to each of the human MC-2R and MC-3R with an  $IC_{50}$  greater than 540 nM and binding to the MC-5R with an  $IC_{50}$  greater than 230 nM.

52. (New) The method of Claim 49 wherein the compound is further characterized by binding to any other human melanocortin receptor with an  $IC_{50}$  greater than 30 nM.

53. (New) The method of Claim 50 wherein the compound is further characterized by binding to any other human melanocortin receptor with an  $IC_{50}$  greater than 100 nM.

54. (New) The method of Claim 51 wherein the compound is further characterized by binding to any other human melanocortin receptor with an  $IC_{50}$  greater than 500 nM.

55. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

56. (New) The method of Claim 55 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to each of the human MC-1R, MC-2R, MC-3R, and MC-5R.

57. (New) The method of Claim 55 wherein the compound binds to the human MC-4R with a binding affinity at least 1000-fold higher than the compound binds to each of the human MC-1R and MC-2R, at least 580-fold higher than the compound binds to the human MC-3R, and at least 250-fold higher than the compound binds to the human MC-5R.

al 58. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the compound binds to the human MC-4R with a binding affinity at least 10-fold higher than the compound binds to any other human melanocortin receptor.

59. (New) The method of Claim 58 wherein the compound binds to the human MC-4R with a binding affinity at least 100-fold higher than the compound binds to any other human melanocortin receptor.

60. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-1R is characterized by an EC<sub>50</sub> greater than 10 nM.

61. (New) The method of Claim 60 wherein the functional activity of the compound at the MC-1R is characterized by an EC<sub>50</sub> greater than 100 nM.

62. (New) The method of Claim 60 wherein the functional activity of the compound at the MC-1R is characterized by an EC<sub>50</sub> greater than 1200 nM.

63. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-3R is characterized by an EC<sub>50</sub> greater than 10 nM.

64. (New) The method of Claim 63 wherein the functional activity of the compound at the MC-3R is characterized by an EC<sub>50</sub> greater than 100 nM.

65. (New) The method of Claim 63 wherein the functional activity of the compound at the MC-3R is characterized by an EC<sub>50</sub> greater than 1200 nM.

a) 66. (New) A method of treating erectile dysfunction in a male subject which comprises administering to the subject in need thereof a therapeutically effective amount of a compound which is a human MC-4R agonist wherein the functional activity at the MC-4R is characterized by an EC<sub>50</sub> less than 10 nM and the functional activity at the MC-5R is characterized by an EC<sub>50</sub> greater than 10 nM.

67. (New) The method of Claim 66 wherein the functional activity of the compound at the MC-5R is characterized by an EC<sub>50</sub> greater than 100 nM.

68. (New) The method of Claim 66 wherein the functional activity of the compound at the MC-5R is characterized by an EC<sub>50</sub> greater than 520 nM.

69. (New) The method of Claim 60 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC<sub>50</sub> greater than 10 nM.

70. (New) The method of Claim 61 wherein the compound is further characterized by having a functional activity at each of the human MC-2R, MC-3R, and MC-5R with an EC<sub>50</sub> greater than 100 nM.